

REMARKS

Applicants respectfully submit this Amendment in response to the non-final Office Action mailed on July 9, 2008.

In the Office Action, claims 32-50 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-31 of U.S. Patent No. 6,687,263; claims 39, 40, 45, and 46 are rejected under 35 U.S.C. § 112, first paragraph, as allegedly failing to comply with the enablement requirement; claims 38 and 42 are rejected under 35 U.S.C. § 112, second paragraph, as allegedly being indefinite for failing to particularly point out and distinctly claim the subject matter which Applicants regard as the invention; claims 32-38 are rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over Dolman et al. (U.S. Patent No. 5,867,500) in view of Shalom (U.S. Patent No. 6,876,669); and claims 41-44 and 47-50 are rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over Dolman et al. in view of Ben-Michael et al. (U.S. Patent No. 6,078,565).

By this Amendment, Applicants amend claims 32, 35, and 38-50. Support for the amendments to the claims can be found in the originally-filed specification, drawings, and claims. No prohibited new matter has been added. Claims 32-50 remain pending, of which claims 32, 39, 41, 43, and 45-48 are independent claims.

Based on the following remarks, Applicants respectfully traverse the rejections of claims 32-50, and request the Examiner's reconsideration and the timely allowance of the claims.

I. Double Patenting Rejections of Claims 32-50

Claims 32-50 stand rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-31 of U.S. Patent No. 6,687,263. Applicants respectfully traverse this rejection, and respectfully request that the Examiner hold the requirement for a Terminal Disclaimer in abeyance until such time as the claims in this case are indicated as being allowable. At that time, the status of this application and its claims can be properly considered, and Applicants will consider filing a Terminal Disclaimer.

II. 35 U.S.C. § 112 Rejections of Claims 38-40, 42, 45, and 46

Claims 39, 40, 45, and 46 stand rejected under 35 U.S.C. § 112, first paragraph as allegedly failing to comply with the enablement requirement; and claims 38 and 42 stand rejected under 35 U.S.C. § 112, second paragraph as allegedly being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The Office Action asserts that claims 39, 40, 45, and 46 claim "software for sending and for receiving a packet of digital data elements" whereas Applicants' "specification supports only hardware, for instance in a PROM, EPROM or the like (see specification on page 5, line 8) with only a brief mention that such hardware without any adequate and enabling disclosure." (Office Action, page 4.)

Applicants respectfully disagree. Nonetheless, to further expedite prosecution of this application, Applicants have amended claims 39 and 40 to remove the reference to "software," and have amended claims 45 and 46 to recite, "[a] computer-readable storage medium storing a computer program which, when executed by a computer,

causes the computer to perform a method" of sending (claim 45) or receiving (claim 46) a packet of digital data elements arranged 1,...,n (emphasis added).

Applicants submit that claims 39 and 40 properly recite a method, while claims 45 and 46 properly recite a product. Moreover, the added language of claims 45 and 46 are enabled at least by the description on page 5 of Applicants' specification that, "Such software may of course be immediately implemented in hardware, for instance in a PROM, EPROM or the like." Specifically, one of ordinary skill in the art would well know that PROM and EPROM are types of computer-readable storage medium on which instructions, routines, computer programs, software, or the like, may be stored.

Accordingly, Applicants submit that the subject matter of claims 39, 40, 45, and 46 is described by Applicants' originally-filed specification in such a way as to enable one skilled in the art to make and/or use the claimed invention. Applicants respectfully request that the rejections of these claims under 35 U.S.C. § 112 be withdrawn.

Claims 38 and 42 were rejected as being unclear and as having insufficient antecedent basis, respectively. Applicants have now amended claims 38 and 42 in the interest of clarifying the claims and obviating the Examiner's rejections under 35 U.S.C. § 112. Accordingly, Applicants respectfully request that the rejections of claims 38 and 42 be withdrawn.

III. § 103(a) Rejections of Claims 32-38, 41-44, and 47-50

Claims 32-38 stand rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over Dolman et al. in view of Shalom; and claims 41-44 and 47-50 stand rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over Dolman et al. in

view of Ben-Michael et al. Applicants respectfully traverse these rejections for at least the reasons discussed below.

To support a rejection under 35 U.S.C. § 103(a), the Examiner must properly determine the scope and content of the prior art, must ascertain the differences between the claimed invention and the prior art, and must resolve the level of ordinary skill in the pertinent art. See M.P.E.P. § 2141(II). In addition, "Office personnel must explain why the difference(s) between the prior art and the claimed invention would have been obvious to one of ordinary skill in the art." M.P.E.P. § 2141(III).

A *prima facie* case of obviousness has not been established at least because the scope and content of the prior art have not been properly determined, and the differences between the prior art and the subject matter of Applicants' claims, as amended, have not been properly ascertained.

A. Claims 32-38

Applicants respectfully traverse the rejection of claims 32-38 over Dolman et al. in view of Shalom. For example, independent claim 32, as amended, recites:

"A method for multiplexing digital data including a packet of digital data elements arranged 1..n, the method comprising:

sending a first stream of data elements starting with data element 1 of the packet and proceeding upward in sequential order;

sending a second stream of data elements starting with data element n of the packet and proceeding downward in sequential order; and

terminating the sending of the first and second streams of data elements when the entire packet has been sent" (emphases added).

Dolman et al. fails to disclose this recited method. Dolman et al. discloses bi-directional cable communications between a base station and a plurality of outstations, including sending "downstream frames" from the base station to the outstations, and sending "upstream frames" from the outstations to the base station. (Figs. 2 and 3; Col. 1, lines 34-47). More specifically, Dolman et al. discloses, "sending requests for allocations of time slots in upstream frames for ATM cells to be transmitted from the outstation to the base station, and timing the cell allocation requests from measured offset such that the cell allocation requests received by the base station in upstream frames are each...in a respective predetermined time slot of that frame." (Col. 2, lines 30-36). In other words, Dolman et al. is directed to the temporal scheduling of outbound and inbound communications.

Dolman et al. does not disclose, "sending a first stream of data elements starting with data element 1 of the packet and proceeding upward in sequential order; [and] sending a second stream of data elements starting with data element n of the packet and proceeding downward in sequential order," as recited in currently amended independent claim 32 (emphases added). Notably, neither the upstream frames nor the downstream frames of Dolman et al. are sent starting with an nth data element of the frame and proceeding downward in sequential order.

Shalom fails to cure the deficiencies of Dolman et al. described above. As a result, neither Dolman et al. nor Shalom, either alone or in combination, teach or suggest each and every element of currently amended independent claim 32.

In view of the deficiencies of the cited references discussed above, the Office Action has neither properly determined the scope and content of the prior art nor

properly ascertained the differences between the prior art and the claimed invention.

Accordingly, no reason has been clearly articulated as to why claim 32 would have been obvious to one of ordinary skill in view of the prior art. As such, a *prima facie* showing of obviousness has not been made.

Claims 33-38 depend from claim 32, and therefore include all of the elements of claim 32. Accordingly, Applicants respectfully traverse the rejections of claims 33-38 for at least the same reasons discussed above with respect to claim 32.

For at least the reasons discussed above, the rejections of claims 32-38 under 35 U.S.C. § 103(a) are improper and Applicants respectfully request the Examiner's reconsideration and withdrawal of the same.

B. Claims 41-44 and 47-50

Applicants respectfully traverse the rejection of claims 41-44 and 47-50 over Dolman et al. in view of Ben-Michael.

Independent claim 41, as amended, recites, among other things:

a "method for receiving a packet of data elements 1..n which are sent in at least a first stream of data elements sent starting with data element 1 of the packet and proceeding upward in sequential order, and a second stream of data elements sent starting with data element n of the packet and proceeding downward in sequential order" (emphases added).

Independent claim 43, as amended, recites, among other things:

"sending the digital data elements in a first stream starting with data element 1 of the packet and proceeding upward in sequential order and second stream starting with data element n of the packet and proceeding downward in sequential order" (emphases added).

Independent claim 47, as amended, recites, among other things:

“a first transmitter for sending a first stream of digital data elements, starting with data element 1 of the packet and proceeding upward in sequential order, and a second transmitter for sending a second stream of digital data elements, starting with data element n of the packet and proceeding downward in sequential order” (emphases added).

Independent claim 48, as amended, recites, among other things:

“a first receiver for receiving a first stream of digital data elements of the packet, and storing the first stream of digital data elements in said memory, starting from the front of the memory and proceeding toward the back of the memory, and a second receiver for receiving a second stream of digital data elements of the packet, and storing the second stream of the digital data elements in said memory, starting from the back of the memory and proceeding toward the front of the memory” (emphases added).

The Office Action asserts that Dolman et al. discloses the above-recited elements of claims 41, 43, 47, and 48. (Office Action, pages 7, 8, and 9.) However, Dolman et al. fails to teach or suggest these above-recited features for similar reasons as described above with respect to independent claim 32.

Furthermore, Ben-Michael et al. fails to cure the deficiencies of Dolman et al. Ben-Michael et al. discloses the expansion of a first-in-first-out (“FIFO”) queue of a semiconductor chip onto a local memory. (Abstract, Fig. 7.) Specifically, Ben-Michael et al. discloses writing data onto a front end of the FIFO queue; reading data from a back end of the FIFO queue; and expanding the middle of the FIFO queue onto local memory (Col. 2, lines 39-44). As such, Ben-Michael et al. fails to teach or suggest the sending and receiving features discussed above with respect to independent claims 41, 43, 47, and 48.

In view of the deficiencies of the cited references discussed above, the Office Action has neither properly determined the scope and content of the prior art nor properly ascertained the differences between the prior art and the claimed invention. Accordingly, no reason has been clearly articulated as to why claims 41, 43, 47, and 48 would have been obvious to one of ordinary skill in view of the prior art. As such, a *prima facie* showing of obviousness has not been established.

Claims 42, 44, 49, and 50 depend from independent claims 41, 43, 47, and 48, respectively, and therefore include all of the elements of those claims. Accordingly, Applicants respectfully traverse the rejections of claims 42, 44, 49, and 50 for at least the same reasons as those discussed above with respect to claims 41, 43, 47, and 48.

For at least the reasons discussed above, the rejections of claims 41-44 and 47-50 under 35 U.S.C. § 103(a) are improper and Applicants respectfully request the Examiner's reconsideration and withdrawal of the same.

CONCLUSION

In view of the foregoing amendments and remarks, Applicants respectfully request reconsideration of this application and the timely allowance of pending claims 32-50.

The Office Action contains characterizations of the claims and the related art with which Applicants do not necessarily agree. Unless expressly noted otherwise, Applicants decline to subscribe to any statement or characterization in the Office Action.

If the Examiner believes a telephone interview will expedite issuance of this Application, the Examiner is requested to call Applicants' representative, whose name

and registration number appear below, at 202-408-4138, to discuss any remaining issues.

Please grant any extensions of time required to enter this response and charge any additional required fees to our deposit account 06-0916.

Respectfully submitted,

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Dated: October 9, 2008

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